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Visible Thinking is an approach to teaching thinking and comprehension skills that was first developed at Harvard's Project Zero. The program helps students develop their thinking dispositions while also deepening their understanding of the topics they study. Visible Thinking includes various practices such as "thinking routines" - small sets of questions or a short sequence of steps - as well as documenting student thinking. This process makes student thinking visible by allowing them to express, document, discuss, and reflect on their different viewpoints. Perlego is an online textbook subscription service that offers access to over 1 million books across 1000+ topics. The service includes features such as text-to-speech functionality, which allows users to listen to texts being read aloud while highlighting the text. Perlego also supports various pricing plans and has a user-friendly interface. Making Thinking Visible is an online book that can be accessed in PDF and/or ePUB format. It discusses the concept of thinking about thinking and highlights the importance of developing students' thinking dispositions. The book includes ideas for classroom strategies and discussion starters, making it a valuable resource for educators. The pricing plans offered by Perlego include annual and monthly subscriptions, with the former providing a 30% discount compared to the latter. Both plans grant users full access to the library and all of Perlego's features. The term "think" is widely used in our daily conversations, with an estimated rank of around 125-136 in terms of frequency in print and the twelfth most used verb in English language according to various lists. However, despite its prevalence, there seems to be a lack of understanding about what it actually means to think. When we use the word "think", people tend to infer that we are engaged in some form of mental activity or problem-solving. Teachers often instruct students to "think" during lessons, but many teachers struggle to identify the specific kinds of thinking they want their students to engage in. This lack of clarity can be attributed to a lack of understanding about the various forms and processes of thinking. Some teachers may reference Bloom's taxonomy, which outlines six levels of learning objectives ranging from knowledge to evaluation. Despite its theoretical basis, Bloom's taxonomy has become a standard framework for many educators to structure their lessons around higher-order thinking skills like analysis and synthesis. Nonetheless, this reliance on theory rather than empirical research about how people learn means that the practical application of these ideas in classrooms is often unclear. As a result, when teachers are asked what kinds of thinking they want to promote or what thinking students must do during specific lessons, many find it challenging to articulate their intentions clearly. Thinking is often misunderstood as a hierarchical process where higher levels require more complexity and comprehension. However, this assumption is problematic, as it fails to account for the dynamic interactions between different types of thinking. Bloom's taxonomy, which posits that knowledge precedes comprehension, application, and so on, is limited in its scope. A more realistic approach is to recognize that thinking is a constant interplay between different modes, such as analysis, evaluation, and creation. For instance, a child painting can seamlessly transition from applying colors to analyzing the outcome and then evaluating the results. This back-and-forth process of experimentation and reflection drives learning. Recent revisions of Bloom's taxonomy, such as Anderson and Krathwohl's (2001) list of remembering, understanding, applying, analyzing, evaluating, and creating, still perpetuate the idea of a sequential progression. However, this perspective neglects the complexity and nuance within each type of thinking. Describing, for instance, can be an extremely challenging and engaging task that requires close observation and pattern detection. In contrast, testing or evaluating may seem more straightforward but is ultimately dependent on the quality of description. This highlights the importance of context and purpose in understanding thinking. Rather than focusing on levels between different types of thinking, it is more productive to examine the levels within a single type. For example, description can be done at varying levels of detail and sophistication. By recognizing this complexity and nuance, we can develop a more accurate understanding of thinking and its role in driving learning. Understanding and Analysis Can Vary in Depth and Approach Different levels of analysis can be observed in various media platforms such as television news, radio, and print. Research suggests that there is a category confusion in Bloom's lists regarding the different levels of understanding. For instance, the distinction between deep and surface learning has been made by some researchers, with deep learning focusing on developing understanding through active processes and surface learning relying on memorization. Most educators now argue that understanding is not a lower-order skill but rather a primary goal of teaching. Research conducted at Project Zero indicates that understanding is often a result of the application, analysis, evaluation, and creation of knowledge rather than its precursor. Understanding can be seen as an outcome of thinking rather than a type of thinking itself. It cannot be forced or directed, but rather emerges from the process of engaging with various activities and associated thinking. This perspective applies to both reading and mathematics, where learning for understanding is fundamentally different from memorization. The process of creating also involves multiple activities and thinking processes, including decision-making, problem-solving, idea testing, and result analysis. Thinking is a dynamic, complex process that can't be broken down into neat levels or steps. It's more like a messy, interconnected web of ideas and experiences. When we think, we don't systematically progress from one level to the next; instead, our thoughts are intertwined with the content we're dealing with. The problem is, when it comes to thinking, we often focus on its products - understanding, creativity, or problem-solving - rather than the process itself. This approach can be limiting, as it overlooks the intricate connections between thinking and learning. Most educational systems prioritize covering the curriculum and preparing students for tests over teaching them to think critically. The pressure to perform well in high-stakes testing environments often means teachers focus on imparting skills and knowledge, rather than fostering genuine understanding or creativity. In many classrooms, the "tell and practice" approach dominates, where teachers simply convey information and have students repeat it back through rote practice. This isn't learning; it's training. True thinking doesn't happen in these environments because there's little emphasis on developing critical thinking skills. So, what should we be focusing on? Perhaps a better starting point is to explore the purposes of thinking itself. Why do we want students to think critically? When does thinking become useful? What roles does it play in learning and education? These questions are worth exploring further, as they hold the key to creating more effective educational practices that prioritize genuine understanding and critical thinking. Coin is often perceived as an engaging classroom environment where students are immersed in various activities. However, this approach can sometimes lead to a lack of critical thinking if the teacher fails to design meaningful lessons. In some cases, activities may resemble mere practice rather than genuine learning experiences. The traditional teaching paradigm views curriculum as something that teachers deliver to students. Effective teachers are seen as those who can effectively convey information. Mark Church's personal journey as an educator highlights the prevalence of this mindset. The key question lies in identifying what kind of thinking is desired in the classroom and ensuring that lessons force students to think critically. Many classrooms focus on completing assignments rather than encouraging authentic intellectual activity. By creating lists of actions, students' engagement can be assessed. The primary actions, actions most authentic to the discipline, and personal experiences from the teacher's past can help identify whether the class is focused on work or understanding. We should be aware of the thinking methods essential for various disciplines, such as science, mathematics, and history. These include making hypotheses, observing closely, building explanations, considering different perspectives, and forming conclusions. By focusing on these kinds of thinking, we can create opportunities for students to engage in meaningful learning experiences. Moreover, it's crucial to hold students' primary expectations for the ability to think critically across all disciplines. Ron Ritchhart and his colleagues identified six high-leverage thinking moves that aid understanding: observing closely, building explanations, reasoning with evidence, considering different viewpoints, capturing the heart of a concept, and forming conclusions. These thinking moves are integral to developing understanding, particularly when trying to grasp new concepts or ideas. By incorporating these strategies into our teaching practices, we can foster deeper understanding among students.